



MAIL STOP APPEAL BRIEF-PATENTS  
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of:	Appeal No.
Wolfgang BEILFUSS et al.	Conf. 2873
Application No. 10/663,257	Group 1615
Filed September 16, 2003	Examiner C. Hagopian

COMPOSITION WHICH IS INTENDED FOR  
USE AS AN ADDITIVE FOR CEMENT

**APPEAL BRIEF**

MAY IT PLEASE YOUR HONORS: July 14, 2008

(i) **Real Party in Interest**

The real party in interest in this appeal is the  
Assignee, AIR LIQUIDE SANTÉ of Paris, France.

(ii) **Related Appeals and Interferences**

Neither the appellant, appellant's legal  
representative nor the assignee know of any other prior or  
pending appeals, interferences or judicial proceedings which  
may be related to, directly affect or be directly affected by  
or have a bearing on the Board's decision in the pending  
appeal.

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(iii) **Status of the Claims**

Claims 18-25, 30-48, 57 and 58 are pending, from whose final rejection this appeal is taken.

Claims 22, 24, and 25 are withdrawn from consideration.

Claims 1-17, 26-29, 49-56 and 59 were cancelled.

(iv) **Status of Amendments**

There are no outstanding amendments. The claims have not been amended since the November 26, 2007 amendment. These claims were finally rejected by the Official Action mailed February 12, 2008 (the "Official Action"). The claims are as set forth in the Claims Appendix.

(v) **Summary of Claimed Subject Matter**

Claims 18 and 20 are independent.

Claim 18 recites a preservative with reduced formaldehyde emissions which comprises:

a) at least one formal; and

b) at least one emission-reducing additive,

wherein,

said at least one emission-reducing additive comprises urea.

(See, e.g., specification page 7, lines 5-9)

Claim 20 recites a preservative with reduced formaldehyde emissions which comprises:

a) at least one formal; and

b) at least one emission-reducing additive; and

wherein urea is one of said at least one emission-reducing additive, and said preservative is substantially absent of:

a) an iodopropynyl compound; and

b) a derivative of 1H-benzimidazol-2-carbamic acid. (specification page 7, lines 5-12)

(vi) **Ground of Rejection to be Reviewed on Appeal**

The ground of rejection on appeal is whether claims 18-21, 23, 30-48, 57, and 58 were properly rejected as being unpatentable under 35 U.S.C. §103(a) over SMITH et al. U.S. 7,078,005 B2 (SMITH) over BEILFUSS et al. U.S. 2001/0021711 A1 (BEILFUSS).

(vii) **Arguments**

The rejection of 18-21, 23, 30-48, 57, and 58 as being unpatentable under 35 U.S.C. §103(a) over SMITH et al. U.S. 7,078,005 B2 (SMITH) over BEILFUSS et al. U.S. 2001/0021711 A1 (BEILFUSS).

SMITH is offered for teaching a H<sub>2</sub>S scavenger product comprising(i) a reaction product of a carbonyl-

containing compound with alcohol, thiol, amide, thiamide, urea or thiourea, and (ii) an amine, e.g., N,N'-methylen-bisoxazolidine. The scavenger product is dissolved into a suitable solvent, such as glycol, and may be with or without water.

BEILFUSS is offered for teaching bactericidal and fungicidal liquid preparations for industrial products comprising at least one bactericidal N-formal, with N,N'-methylenebis (5-methyloxazolidine) being preferred.

The Examiner's position is that one of ordinary skill in the art would have been motivated to include N,N'-methylenebis (5-methyloxazolidine) in the product of SMITH because of its known bactericidal properties and effectiveness in industrial products. The Examiner further states that a practitioner would reasonably expect that the addition of N,N'-methylenebis (5-methyloxazolidine) to the composition of SMITH would produce a H<sub>2</sub>S scavenger and/or a bactericidal composition.

However, this proposed combination fails to render obvious independent claims 18 and 20, as well as dependent claims 19, 21, 23, 30-48, 57 and 58, for at least three reasons, as set forth below:

I. There is no teaching, suggestion, or motivation to add a bactericidal material to the H<sub>2</sub>S scavenger product

of SMITH.

The motivation stated by the Examiner in the last full paragraph of page 5 is that one of ordinary in the art would have been motivated to include the N-formal of BEILFUSS because of "its known bactericidal properties and its effectiveness in industrial products".

However, SMITH fails to suggest that the H<sub>2</sub>S scavenger product requires protection from microbial attack during storage or throughout the shelf-life.

Rather, SMITH has discovered that some bactericidal agents, such as ethylene glycol hemiformal and dimethylolurea, perform well as H<sub>2</sub>S scavenger products. See, e.g., column 4, lines 23-32.

Moreover, the only protection that SMITH recommends for the H<sub>2</sub>S scavenger product is with respect to the formation of a solid during the use of the scavenger product. See, e.g., column 6, lines 1-35.

Thus, SMITH fails to suggest that the H<sub>2</sub>S scavenger product would have required any additional bactericidal agents to improve storage or shelf-life.

II. There is no teaching, suggestion, or motivation to add the bactericidal material of BEILFUSS to an H<sub>2</sub>S scavenger product.

BEILFUSS discloses preserving industrial products from bacterial and fungal attack during storage. The examples provided by BEILFUSS include cooling lubricants, cosmetic products, household products, cleaning products, crop protection compositions, seed treatment compositions, treating plants etc. See, e.g., paragraphs 0001-0003 and 0017.

However, BEILFUSS neither discloses nor suggests that a  $H_2S$  scavenger product for hydrocarbon streams including sewage gases or natural gas/oil would also require preservation from bacterial and fungal attack during storage.

III. The combination fails to teach the features of claims 18 and 20.

Even if one were to combine the publications, one would not obtain a preservative as claimed.

The  $H_2S$  scavenger product of SMITH comprises a reaction product formed by reacting starting materials such as a carbonyl group-containing compound and with an alcohol, thiol, amide, thioamide, urea or thiourea. That is, the object of SMITH is to utilize the reaction product, not the reactant. See, e.g., column 1, lines 46-51 and column 2, lines 26-35.

The Examiner's position is that the present claim language "is open-ended and does not exclude a reaction product utilizing urea or a urea derivative".

However, this statement is unclear, in light of the restriction requirement imposed by the Examiner, as well as the teachings of SMITH.

As to the restriction requirement, the Examiner withdraws claim 24 from further consideration in the Official Action, and maintains the withdrawal of claim 25, because these claims include emission-reducing additives in addition to urea, such as the urea derivative dimethylolurea in claim 25. These claims explicitly recite that the at least one emission-reducing additive further comprises additives other than urea, but the Examiner views these claims as not directed to the same invention as claims 18 and 20. Thus, the Examiner can view, for example, urea-derivatives excluded from the claimed invention, but rely on SMITH for teaching urea derivatives.

As to SMITH, the H<sub>2</sub>S scavenger product of SMITH may be formed from a reaction product of urea and a carbonyl-containing compound. Once urea reacts to form the reaction product, there is no "urea" *per se* to "utilize". Thus, SMITH fails to disclose or suggest a "reaction product utilizing urea".

Moreover, SMITH requires a reaction product, such

as a urea derivative, for the H<sub>2</sub>S scavenger product. SMITH, like the present application, distinguishes a urea derivative from urea, e.g. column 2, line 27 to 35. However, unlike independent claims 18 and 20 which require at least urea, SMITH does not require at least urea.

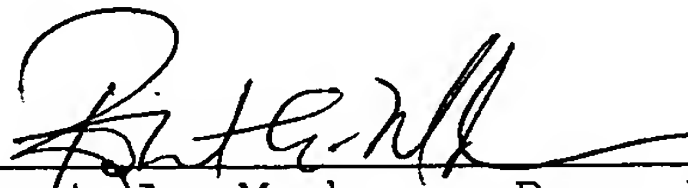
Furthermore, neither publication teaches preservatives with the problem of the emission of formaldehyde during storage, let alone sets out to solve the problem.

Thus, at best, the combination teaches a H<sub>2</sub>S scavenger product, which comprises the reaction product of a reaction product of urea and a carbonyl-containing compound, and an N-formal.

Reversal of the obviousness rejection of independent claims 18 and 20 is accordingly respectfully requested. As claims 19, 21, 23, 30-48, 57, and 58 depend from claim 18, reversal of the obviousness rejection of these dependent claims is also respectfully requested.

Respectfully submitted,

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(viii) **Claims Appendix**

The claims on appeal are:

18. A preservative with reduced formaldehyde emissions which comprises:

- a) at least one formal; and
- b) at least one emission-reducing additive,

wherein,

said at least one emission-reducing additive comprises urea.

19. The preservative according to Claim 18, wherein said preservative is substantially absent of:

- a) an iodopropynyl compound; and
- b) a derivative of 1H-benzimidazol-2-carbamic

acid.

20. A preservative with reduced formaldehyde emissions which comprises:

- a) at least one formal; and
- b) at least one emission-reducing additive; and

wherein urea is one of said at least one emission-reducing additive, and said preservative is substantially absent of:

- a) an iodopropynyl compound; and

b) a derivative of 1H-benzimidazol-2-carbamic acid.

21. The preservative according to Claim 18, wherein said formal is a N-and/or O-formal.

22. (withdrawn) The preservative according to Claim 21, wherein said formal is selected from the group consisting of:

- a) ethylenedioxy dimethanol;
- b) benzyl alcohol hemiformal;
- c) propylene glycol hemiformal; and
- d) butyl diglycol hemiformal.

23. The preservative according to Claim 18, wherein said formal is selected from the group consisting of:

- a) N, N', N''- tris(hydroxyethyl)hexahydrotriazine;
- b) N, N', N''-tris( $\beta$ -hydroxypropyl)hexahydrotriazine;

and

- c) N, N'-methylenebis(5-methyloxazolidine).

24. (withdrawn) The preservative according to Claim 18, wherein said at least one emission-reducing additive further comprises at least one component selected

from the group consisting of:

- a) glycoluril;
- b) dimethylhydantoin;
- c) imidazolidinylurea;
- d) diazolidinylurea;
- e) amino acids;
- f) guanidine; and
- g) guanidine derivatives.

25. (withdrawn) The preservative according to Claim 18, wherein said at least one emission-reducing additive further comprises at least one component selected from the group consisting of:

- a) glycoluril;
- b) tetramethylolglycoluril;
- c) dimethylhydantoin;
- d) dimethyloldimethylhydantoin;
- e) dimethylolurea;
- f) tetramethanolurea;
- g) imidazolidinylurea; and
- h) diazolidinylurea.

30. The preservative according to Claim 18, wherein said preservative further comprises:

- e) at least one additional additive.

31. The preservative according to Claim 30, wherein said additional additive comprises at least one component selected from the group consisting of:

- a) solvents;
- b) solubility promoters;
- c) corrosion inhibitors;
- d) alkalizing agents;
- e) dyes, perfumes;
- f) viscosity modifying agents;
- g) foam inhibitors;
- h) emulsifiers; and
- i) antioxidants.

32. The preservative according to Claim 18, wherein the weight ratio of said formal and said emission-reducing additive ranges from about 500:1 to about 1:1 of the total preservative's composition.

33. The preservative according to Claim 32, wherein said weight ratio of said formal and said emission-reducing additive ranges from about 200:1 to about 5:1 of the total preservative's composition.

34. The preservative according to Claim 33, wherein said weight ratio of said formal and said emission-

reducing additive ranges from about 100:1 to about 10:1 of the total preservative's composition.

35. The preservative according to Claim 34, wherein said weight ratio of said formal and said emission-reducing additive ranges from about 50:1 to about 20:1 of the total preservative's composition.

36. The preservative according to Claim 18, wherein said preservative further comprises water.

37. The preservative according to Claim 36, wherein the weight of said water is up to about 10% of the total preservative's composition.

38. The preservative according to Claim 37, wherein said weight of said water is up to about 5% of the total preservative's composition.

39. The preservative according to Claim 38, wherein said weight of said water is up to about 1% of the total preservative's composition.

40. The preservative according to Claim 18, wherein said preservative is anhydrous.

41. The preservative according to Claim 18,  
wherein said preservative comprises:

- a) about 90% to about 99% weight of N,N'-methylenebis (5-methyloxazolidine); and
- b) about 1% to about 10% weight of urea.

42. The preservative according to Claim 41,  
wherein said preservative comprises:

- a) about 92% to about 98% weight of N,N'-methylenebis (5-methyloxazolidine); and
- b) about 2% to about 8% weight of urea.

43. The preservative according to Claim 42,  
wherein said preservative comprises:

- a) about 93% to about 97% weight of N,N'-methylenebis (5-methyloxazolidine); and
- b) about 3% to about 7% weight of urea.

44. The preservative according to Claim 43,  
wherein said preservative comprises:

- a) about 95% weight of N,N'-methylenebis (5-methyloxazolidine); and
- b) about 5% weight of urea.

45. The preservative according to Claim 18,

wherein said preservative comprises:

- a) about 80% to about 98% weight of N,N'-methylenebis (5-methyloxazolidine);
- b) about 1% to about 10% weight of urea; and
- c) about 1% to about 10% weight of phenoxyethanol.

46. The preservative according to Claim 45, wherein said preservative comprises:

- a) about 84% to about 96% weight of N,N'-methylenebis (5-methyloxazolidine);
- b) about 2% to about 8% by weight of urea; and
- c) about 2% to about 8% by weight of phenoxyethanol.

47. The preservative according to Claim 46, wherein said preservative comprises:

- a) about 86% to about 94% weight of N,N'-methylenebis (5-methyloxazolidine);
- b) about 2% to about 7% weight of urea; and
- c) about 3% to about 7% weight of phenoxyethanol.

48. The preservative according to Claim 47, wherein said preservative comprises:

- a) about 95% weight, of N,N'-methylenebis(5-

methyloxazolidine);

b) about 5% weight of urea; and

c) about 5% weight of phenoxyethanol.

57. The preservative according to Claim 18, wherein said preservative is utilized for a technical product.

58. The preservative according to Claim 57, wherein said product is selected from the group consisting of:

a) cutting fluid;

b) propellant;

c) surface coating;

d) a dispersion; and

e) a water-based paint.



(ix) **Evidence Appendix**

None.

(x) **Related Proceedings Appendix**

None.